CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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SUBJECT	Construction of Solar Apparatus At Heinrich Hertz Institute	DATE DISTR.	23 September 1955
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THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
THE APPRAISAL OF CONTENT IS TENTATIVE.
(FOR KEY SEE REVERSE)

1. The construction of a solar apparatus (Solar-Geraet) has been begun on the testing grounds at the Heinrich Hertz Institute in Berlin-Adlershof. The construction work is to be done by P. Gresse & Co., of Wittenberg/Elbe. Seventy tons of structural steel have been authorized for this project by the Russians in Karlshorst.

2. Because of the limited supply of material and funds, only an antenna reflector, with a diameter of 30 meters, is to be built in 1955. In the first stage of construction, the reflector cannot be elevated and depressed except along a vertical plane from north to south. The lowest inclination of the axle shaft to the south is 10 degrees above the horizon. In order to accommodate the edge of the reflector when depressed, a cement trough 4 meters deep has been built.

3. The extension of the reflector's diameter to 36 meters, and the ability to rotate on a horizontal plane, are planned for 1956 construction.

4. The reflector is a flat parabola; 15 meters of its diameter is sheet metal. Within this 15 meter diameter the reflector is designed for ultra-short for waves of 3 centimeters. From a diameter of 15 meters to a diameter of 30 meters, the supporting framework is covered with wire mesh; here the reflector is designed for ultra-short waves up to 10 centimeters.

5. Attached to the edge of the reflector, a mooring ring will extend out from the reflector and will hold in its center a "manned cabin" for the precision adjustment of the dipole. The mooring ring and the cabin will be constructed of insulating material. This cabin cannot be built until later, because of a lack of material and funds. Temporarily the dipole is adjusted from the back of the reflector through an opening.

6. The outer edge of the reflector, between 30 and 36 meters diameter, will be constructed so as to be extensible; it is designed for ultra-short waves to 1 meter. This section of the reflector, because of the need for simplicity of construction, will be linear, not concave. The slight divergence from geometric form can be disregarded. 50X1

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7. The apparatus is so stably constructed, that, in a wind of 7 meters per second, the edge of the reflector will not vary from the desired placement more than $\pm$ 1 millimeter. 50X1

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